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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,849	04/27/2000	Albhy Galuten	9386/1F566US1	2145

7590

08/02/2004

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EXAMINER

CHU, GABRIEL L

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/559,849

Applicant(s)

GALUTEN ET AL.

Examiner

Gabriel L. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 14, 16-25, 27, 28, 30, 32 and 43-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 14, 16-25, 27, 28, 30, 32 and 43-52 is/are rejected.
- 7) ☒ Claim(s) 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 25, 43, 44, 46, 49, 51, and 52 are objected to because of the following informalities:

Referring to claim 25, "providing the assistance option to the system" is understood to refer to "providing the assistance option to the system element", correcting for antecedence.

Referring to 43, "the system element processing the error related to the response" is understood to refer to "a system element processing the error related to the response", correcting for antecedence.

Referring to claim 44, it is not clear if "a system element" refers to the system element processing the error related to the response or to another system element. For the purpose of examination, "a system element" is understood to refer to "another system element".

Referring to claim 46, "the distributed computer system" has no antecedent basis. For the purpose of examination, claim 46 is understood to refer to "The method of claim 43 wherein the method for tracking and resolving errors is practiced in a distributed computer system, wherein the filtering step further comprises determining the errors that require a physical change to the distributed computer system."

Referring to claims 49 and 52, "on least" is understood to refer to "on at least".

Further referring to claim 49, "generating, by the central resource, an error pack based on the error message containing at least one assistance option" is unclear. It is

understood to refer to, instead, "generating, by the central resource, an error pack, based on the error message, containing at least one assistance option".

Referring to claim 51, the claimed dependence to claim 26 is understood to refer to claim 50 instead.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Referring to claim 32, it is not clear how "directing the errors" can be accomplished. This is understood to refer to, instead, "directing the messages and responses to the errors".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 43-45 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6446224 to Chang et al. Referring to claim 43, Chang et al. disclose identifying the

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processing of at least two errors by at least one system element; intercepting the processing of the errors; generating at least two error messages related to each of the errors; filtering the error messages by determining at least one response category for each of the errors (From 6 of column 3, "Whenever a low priority error (e.g. a correctable error) is detected in one of the MMU units, an entry is loaded into the low priority queue associated with that MMU unit." Further, from line 22 of column 3, "On the other hand, if a high priority error (e.g. a non-correctable error) is encountered by one of the MMU units, then an entry is loaded into the high priority error queue associated with that MMU unit."); generating a response for each of the error messages based at least in part on the response category; and dispatching at least one response to a system element processing the error related to the response (From line 24 of column 7, "RED MODE operation preferably begins with the CPU 12 issuing a request for an instruction, the request preferably including a specific virtual address and a load command. This request is sent to the MMU 18, and more specifically, the virtual address is sent to the translation unit 50 and the command is sent to the diagnostic processor interface 92. In response, the translation unit 50 uses the special translation register 58 to provide a translated address for the virtual address. This translated address is sent to the diagnostic processor interface 92. In response, the diagnostic processor interface 92 sends the translated address and the load command to the diagnostic processor 24 for processing. Upon receipt of the load command and the translated address, the diagnostic processor 24 processes the load command to retrieve information from the ROM 26 from a location indicated by the translated address. Preferably, the ROM 26

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contains therein a section 34 wherein RED MODE code is stored, and preferably the translated address points to a location within section 34. By processing the load command, the diagnostic processor 24 is in effect retrieving a RED MODE instruction from the ROM 26 for the CPU 12 to execute. Once the instruction is retrieved, it is passed on to the diagnostic processor interface 92, which in turn, passes the instruction on to the CPU 12 for execution. Armed with this RED MODE instruction, the CPU 12 can begin executing RED MODE code to properly process the high priority errors. Preferably, the CPU 12 continues this process of fetching RED MODE code by way of the diagnostic processor 24 as long as RED MODE is invoked." Further, from line 66 of column 7, "Returning to step 110, if none of the high priority error signals from queues 56, 66, 76 are asserted, then error handling unit 90 proceeds to step 120 to determine whether any of the low priority error signals from the low priority error queues 54, 64, 74, 84 are asserted. If one or more of these low priority error signals is asserted, then error handling unit 90 will generate 122 and send an interrupt request signal to the CPU 12 to inform the CPU 12 that a low priority error has occurred. The level of this interrupt request can be set by a user. Also, within the CPU 12, there is an interrupt mask register 30. The contents of this register 30, which can also be set by the user, are used to mask out certain interrupt signals. Depending on the interrupt level of the interrupt request, and the contents of the mask register 30, the CPU 12 may or may not process the interrupt immediately. If the CPU 12 does not service the interrupt, then error handling unit 90 preferably maintains the interrupt request signal in the active state. Operation of MMU 18 remains the same. Low priority errors continue to be

stored into the low priority error queues 54, 64, 74. If these queues become full, then the new entries will simply overwrite the old entries. Since the low priority error entries are used primarily for logging purposes, overwriting some of the error entries will not adversely affect system operation. If, on the other hand, the CPU 12 decides to service the interrupt, then the error entries in all of the low priority error queues 54, 64, 74 are read, processed, and then cleared by the CPU 12. Once that is done, the interrupt signal is deasserted and the system 10 returns to normal operation.”).

Referring to claim 44, Chang et al. disclose the filtering step further comprises determining the errors require assistance of another system element (From line 24 of column 7, “RED MODE operation preferably begins with the CPU 12 issuing a request for an instruction, the request preferably including a specific virtual address and a load command. This request is sent to the MMU 18, and more specifically, the virtual address is sent to the translation unit 50 and the command is sent to the diagnostic processor interface 92. In response, the translation unit 50 uses the special translation register 58 to provide a translated address for the virtual address. This translated address is sent to the diagnostic processor interface 92. In response, the diagnostic processor interface 92 sends the translated address and the load command to the diagnostic processor 24 for processing.”).

Referring to claim 45, Chang et al. disclose the filtering step further comprises determining the errors that require assistance of an external element (From line 24 of column 7, “RED MODE operation preferably begins with the CPU 12 issuing a request for an instruction, the request preferably including a specific virtual address and a load

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command. This request is sent to the MMU 18, and more specifically, the virtual address is sent to the translation unit 50 and the command is sent to the diagnostic processor interface 92. In response, the translation unit 50 uses the special translation register 58 to provide a translated address for the virtual address. This translated address is sent to the diagnostic processor interface 92. In response, the diagnostic processor interface 92 sends the translated address and the load command to the diagnostic processor 24 for processing.”).

Referring to claim 48, Chang et al. disclose the filtering step further comprises determining the errors that are resolved automatically (From line 40 of column 5, “If a low priority error such as a single bit hardware correctable error is detected, then detection/correction unit 62 preferably corrects the error and thereafter logs the error into an entry of the low priority queue 64.”).

6. Claim 49 is rejected under 35 U.S.C. 102(e) as being anticipated by US 6249812 to Cromer et al. Referring to claim 49, Cromer et al. disclose receiving, at a central resource, at least two error messages, related to at least two errors occurring on at least one of a plurality of system elements (From line 55 of column 2 (with emphasis), “The management server receives alert messages from the client machine that contains the machine ID, language support, and error condition.”); filtering the error messages by determining at least one category of response for each of the errors (From line 60 of column 2, “The management server has a predefined response file based on the client type and the error condition which file allows for automatic response.”); generating, by the central resource, an error pack, based on the error message, containing at least one

assistance option; and transmitting the error pack to the system element that generated the error message (From line 57 of column 2, "The management server based on the error condition, either sends a response message to the client machine in the appropriate language or generates a trouble ticket.").

7. Claims 50 and 51 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6032001. Referring to claim 50, Miyawaki discloses identifying the processing of at least two errors by at least one system element; intercepting the processing of the errors; generating at least two error messages related to each of the errors (From line 46 of column 1, "The present invention resolves the above-described problem and relates to a remote diagnosis system which includes a plurality of image forming apparatus which each have a trouble informing device. Also included is a central controller for receiving, from each of the image forming apparatus, data indicative of the trouble."); determining at least one priority level for each of the errors (From line 1 of column 2, "Further, the trouble classifying device classifies reasons or causes why the trouble has occurred into a plurality of categories. Further, the trouble classifying device regards a trouble as urgent information if it causes the image forming apparatus to be inoperative. Further, the trouble-classifying device regards a trouble as non-urgent information if it occurs during an operation mode not presently used by the operator. Further, a plurality of display controllers are respectively disposed in each of the image forming apparatuses for controlling the display corresponding to the trouble classified by the trouble classifying device."); prioritizing the error messages based on the priority level (From line 27 of column 2, "In addition, the data communication apparatus sends

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urgent trouble information prior to non-urgent trouble information to the central control apparatus.”); and dispatching at least one response to the system element processing the error in an order based on the priority level (From line 66 of column 15, “A second type of message may indicate that the trouble has been transmitted to the central control apparatus 400. Such messages are displayed on the display 142, if the duplex mode is selected by the user after the trouble occurred in the duplex related device is transmitted to the central control apparatus 400 and the image forming apparatus receives a response from the central control apparatus 400 indicating that data communication of the trouble is successful (Steps S54, S56 and S58).” Further, from line 65 of column 5, “First, urgent data communications are made from the image forming apparatus to the central control apparatus 400 via the data communication apparatus 200 in order to inform a possibility of an accident or problem which has arisen in the image forming apparatus causing the image forming apparatus to be inoperative.” Further, from line 15 of column 6, “Fourth, non-urgent data communications are made at designated time intervals during a day, for example, from the image forming apparatus to the central control apparatus 400 via the data communication apparatus 200.”).

Referring to claim 51, Miyawaki discloses the prioritizing step further comprises identifying the error that is the most significant threat to the system element (From line 62 of column 5, “In the second function of the system, the below-described data communications are made from one image forming apparatus of the image forming apparatus group 100 to the central control apparatus 400. First, urgent data communications are made from the image forming apparatus to the central control

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apparatus 400 via the data communication apparatus 200 in order to inform a possibility of an accident or problem which has arisen in the image forming apparatus causing the image forming apparatus to be inoperative. Second, urgent data communications are made from the image forming apparatus to the central control apparatus 400 via the data communications apparatus 200 in order to transmit a consumable request when an operator inputs a signal indicative of requesting a new consumable article or a repair request when the operator inputs a signal indicative the image forming apparatus requiring repair. Third, urgent data communications are made from the image forming apparatus to the central control apparatus 400 via the data communication apparatus 200 in order to inform an event that a value of the image forming apparatus counter is near a predetermined amount. Fourth, non-urgent data communications are made at designated time intervals during a day, for example, from the image forming apparatus to the central control apparatus 400 via the data communication apparatus 200. When a possibility of an accident or trouble that does not interfere a copying operation occurs in the image forming apparatus, the image forming apparatus informs the central control apparatus 400 of such possibility so as to prevent the accident beforehand.").

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 2, 14, 17, 22, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6000046 to Passmore in view of US 5357611 to Kaneshima. Referring to claim 25, Passmore discloses receiving an error message at a central-resource from the system element indicating the occurrence of an error associated with the system element (From the abstract, "A system uses a common error processing process within a computer system wherein other processes that detect errors send an error message to the common process and the common process is used to display all error messages, and display the help file."); referencing an error-resource having a plurality of assistance options (From line 27 of column 5, "Referring now to FIG. 5, after entry, block 502 retrieves the error message sent by the error process 210 or 212. Block 504 then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user."); selecting an assistance option from the plurality of assistance options in accordance with the error message (From line 27 of column 5, "Referring now to FIG. 5, after entry, block 502 retrieves the error message sent by the error process 210 or 212. Block 504 then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user."); and providing the assistance option to the system element (From line 27 of column 5, "Referring now to FIG. 5, after entry, block 502 retrieves the error message sent by the error process 210 or 212. Block 504

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then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user."). Although Passmore does not specifically disclose determining whether a connection exists between the system element and the central-resource; transmitting the error message from the system element to the central resource when the connection exists; and when the connection does not exist, queuing the error message for later transmission to the central resource, queuing a message for later transmission when the transmission medium is not available is known in the art. An example of this is shown by Kaneshima, from the abstract, "The intermediate control apparatus transfers chronologically the information from the multiple supervised apparatuses to the centralized supervisory control center. If the centralized supervisory control center is stopped or if line disconnection occurs, the previously collected information about the supervised apparatuses is controlled chronologically by the intermediate control apparatus. When the centralized supervisory control center resumes its service, the information about the supervised apparatuses is transferred to the centralized supervisory control center." A person of ordinary skill in the art at the time of the invention would have been motivated to queue a message for later transmission because, from line 26 of column 5 of Kaneshima, "if the centralized supervisory control center 12 is stopped for maintenance or other purposes or if any of the lines connected to the center 12 is disconnected, the information output by the supervised apparatuses 10a through 10n may not be transferred to the centralized supervisory control center 12

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for an extended period of time. During the service interruption, the status data are continuously sent from the supervised apparatuses 10a through 10n, filling the storage area of the deviation status control and storage means 23 in the intermediate control apparatus 11."

Referring to claim 2, Passmore discloses the resolving step includes the further comprising the step of selecting and dispatching appropriate help information to a user (From line 27 of column 5, "Referring now to FIG. 5, after entry, block 502 retrieves the error message sent by the error process 210 or 212. Block 504 then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user.").

Referring to claim 14, Passmore discloses directing errors to resources capable of assisting in resolving the error (From the abstract, "A system uses a common error processing process within a computer system wherein other processes that detect errors send an error message to the common process and the common process is used to display all error messages, and display the help file.").

Referring to claim 17, Passmore discloses the resolving step includes the further step of dispatching appropriate help information to the system element from which the error event originated (From line 27 of column 5, "Referring now to FIG. 5, after entry, block 502 retrieves the error message sent by the error process 210 or 212. Block 504 then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends

the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user.”).

Referring to claim 22, Passmore discloses prioritizing errors when there is more than one error still unresolved at any given time (From line 49 of column 5, “Because the error processor of the flowchart of FIG. 5 is a separate process within the computer system, and all error messages are transferred to the error processor for display, there will not be any priority conflict as to which messages are displayed first. Thus, since all error messages are displayed by the error processor, the first error message received will be displayed first, and this error message is most likely the error message produced by the process that first discovered the error condition.”).

Referring to claim 24, Passmore discloses propagating an error alert to one or more components of said computer system that may be affected by the occurrence of said error (From the abstract, “The common error process detects whether the system is a distributed application running on multiple computer systems, and if this is so, the common error process sends any error messages to other computers within the distributed network, so that the error messages are displayed on all computers when one computer has an error.”).

10. Claims 16, 18, 21, 23, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6000046 to Passmore in view of US 5357611 to Kaneshima as applied to claim 25 above, and further in view of US 5666481 to Lewis. Referring to claim 16, Passmore discloses receiving a query for help information from one of said plurality of system elements (From line 27 of column 5, “Referring now to FIG. 5, after

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entry, block 502 retrieves the error message sent by the error process 210 or 212."); and providing help information in response to the help query (From line 29 of column 5, "Block 504 then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user."). Although Passmore does not specifically disclose dynamically updating the help information, updating the help information is well known in the art. An example of this is shown by Lewis, from the abstract, "Completed trouble tickets are stored in a library and when an outstanding trouble ticket is received, the system uses at least one determinator to correlate the outstanding communications network fault to data fields in the set of data fields of the trouble ticket data structure to determine which completed trouble tickets in the library are relevant to the outstanding communications network fault." A person of ordinary skill in the art would have been motivated to update help information in a fault resolution system because, from the abstract, "the system uses at least one determinator to correlate the outstanding communications network fault to data fields in the set of data fields of the trouble ticket data structure to determine which completed trouble tickets in the library are relevant to the outstanding communications network fault".

Referring to claims 18 and 28, although Passmore does not specifically disclose dynamically updating the help information, updating the help information is well known in the art. An example of this is shown by Lewis, from the abstract, "Completed trouble tickets are stored in a library and when an outstanding trouble ticket is received, the

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system uses at least one determinator to correlate the outstanding communications network fault to data fields in the set of data fields of the trouble ticket data structure to determine which completed trouble tickets in the library are relevant to the outstanding communications network fault." A person of ordinary skill in the art would have been motivated to update help information in a fault resolution system because, from the abstract, "the system uses at least one determinator to correlate the outstanding communications network fault to data fields in the set of data fields of the trouble ticket data structure to determine which completed trouble tickets in the library are relevant to the outstanding communications network fault".

Referring to claim 21, Passmore discloses a help file for the resolution of errors (From line 27 of column 5, "Referring now to FIG. 5, after entry, block 502 retrieves the error message sent by the error process 210 or 212. Block 504 then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user."). Although Passmore does not specifically disclose said error-resource comprises a database containing information regarding bypassing of errors, having a help file present information for bypassing errors is well known in the art. An example of this is shown by Lewis, from the abstract, "An improved method and apparatus of resolving faults in a communications network. The preferred system uses a trouble ticket data structure to describe communications network faults. Completed trouble tickets are stored in a library and when an outstanding trouble ticket is received, the system uses at least one

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determinator to correlate the outstanding communications network fault to data fields in the set of data fields of the trouble ticket data structure to determine which completed trouble tickets in the library are relevant to the outstanding communications network fault. The system retrieves a set of completed trouble tickets from the library that are similar to the outstanding trouble ticket and uses at least a portion of the resolution from at least one completed trouble ticket to provide a resolution of the outstanding trouble ticket. The determinators may be macros, rules, a decision tree derived from an information theoretic induction algorithm and/or a neural network memory derived from a neural network learning algorithm. The system may adapt the resolution from a retrieved trouble ticket to provide the resolution using null adaptation, parameterized adaptation, abstraction/respecialization adaptation, or critic-based adaptation techniques. " A person of ordinary skill in the art would have been motivated to use a fault resolution database when presented with an error in the system because, from line 20 of column 3, 'Still another object of the present invention is to provide a method and apparatus for automatically resolving faults in communications networks.'

Referring to claim 23, Passmore discloses generating an information-package in response to the receiving step (From line 27 of column 5, "Referring now to FIG. 5, after entry, block 502 retrieves the error message sent by the error process 210 or 212. Block 504 then formats this error message for display to the user, block 505 finds a reference in the help system for the message and inserts it into the message, and block 506 sends the formatted message to the error GUI 208 (FIG. 2), where the message is displayed to the user."). Although Passmore does not specifically disclose what the

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message can contain, Lewis discloses an error message comprising an error-identification (From figure 3, element 62A, 62B, or 62L.), and at least one of a system identification (From figure 3, element 62D, 62E, 62G, or 62J.), an application identification (From figure 3, element 62D, 62E, 62G, or 62J), a time stamp (From figure 3, element 62D, 62H, or 62K.), a location (From figure 3, element 62D or 62G.), a priority (From figure 3, element 62S or 62U.), and an internal state (From figure 3, any element in the figure is indicative of or related to state and is internal to the system.). A person of ordinary skill in the art at the time of the invention would have been motivated to use a trouble ticket because from line 20 of column 3, 'Still another object of the present invention is to provide a method and apparatus for automatically resolving faults in communications networks.'

11. Claims 19 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6000046 to Passmore in view of US 5357611 to Kaneshima as applied to claims 17 and 25 above, and further in view of US 5983364 to Bortcosh et al. Referring to claims 19 and 30, although Passmore does not specifically disclose investigating the error by soliciting additional information about the occurrence of the error from the system element associated with the error, soliciting additional information is well known in the art. An example of this is shown by Bortcosh et al., from the abstract, "An expert system unit analyzes the fault and uses the file set to determine a fact request to be asked or a remedy to be applied to the computer system." A person of ordinary skill in the art at the time of the invention would have been motivated to perform a fact request

because, from the abstract, "The expert system makes additional fact requests if needed until a diagnosis is reached or the current file set is exhausted."

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6000046 to Passmore in view of US 5357611 to Kaneshima as applied to claim 25 above, and further in view of US 5748880 to Ito et al. Referring to claim 20, although Passmore does not specifically disclose determining a preferred assistance option based on previous assistance options provided in response to an error; and wherein the selecting step includes selecting the preferred assistance option, selecting a past resolution is known in the art. An example is shown by Ito et al. from the abstract, "The system further includes a recovery history-storing device for storing recovery procedures previously executed by the recovery-executing device; a recovery history-selecting device for selecting one of the recovery procedures stored in the recovery history-storing device, according to an operation of the operator; and a recovery history display device for displaying the selected one recovery procedure on the display screen." Further, from line 66 of column 5, "The menu indication area 51g displays a menu of functions utilized in recovery from the fault. If "LOG" is selected by the cursor 50d, a log (recovery history) of the preceding recovery operation corresponding to the selected error message is read from the hard disk drive 15, and displayed on the recovery procedure indication area 51e, as shown in FIG. 7, as a window of a recovery log display screen 52. The operator performs operations according to indications on the recovery procedure indication area 51e or the recovery log display screen 52, to execute recovery from the fault." A person of ordinary skill in the art at the time of the

invention would have been motivated to use a resolution history in determining a current resolution because, from line 8 of column 2, it is "the object thereof is to provide a computer-supervising system which makes it possible to confirm a type of a fault, and effect recovery from the fault, more promptly."

13. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6000046 to Passmore in view of US 5357611 to Kaneshima as applied to claim 25 above. Referring to claim 27, although Passmore does not specifically disclose locating an alternative resource to substitute for a failed resource associated with the intercepted error, this is well known in the art. Examiner takes official notice for an alternative resource for a failed resource. An example of this is failover. A person of ordinary skill in the art at the time of the invention would have been motivated to implement failover in a system because being able to fail over to a similar resource in the event of failure allows a system to be more resilient.

14. Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6446224 to Chang et al. Referring to claim 46, although Chang et al. do not specifically disclose the method for tracking and resolving errors is practiced in a distributed computer system, wherein the filtering step further comprises determining the errors that require a physical change to the distributed computer system, distributed computer systems are notoriously well known in the art, and altering a physical component in response to an error is also notoriously well known in the art. Examiner takes official notice for distributed computing and swapping out a processor. A person of ordinary skill in the art at the time of the invention would have been motivated to apply

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an error handling system to a distributed computer because distributed computers are large, complex machines, and as such, are subject to error, and further, from line 37 of column 2 of Chang et al., "The larger a computer system is, the more components it contains, and the more components there are, the greater the chances of hardware failure. As a result, for very large and complex computer systems, hardware failures are practically inevitable. Since hardware failure is almost a given, the important issue in large-scale computer systems becomes the manner in which hardware failures or errors are handled." Further, a person of ordinary skill in the art at the time of the invention would have been motivated to swap out a processor in case of error because the processor is faulty, and further, from line 37 of column 2 of Chang et al., "The larger a computer system is, the more components it contains, and the more components there are, the greater the chances of hardware failure. As a result, for very large and complex computer systems, hardware failures are practically inevitable. Since hardware failure is almost a given, the important issue in large-scale computer systems becomes the manner in which hardware failures or errors are handled."

Referring to claim 47, although Chang et al. do not specifically disclose the filtering step further comprises determining the errors that require user intervention, alerting a user in case of error is notoriously well known in the art. Examiner takes official notice for telling a computer user to restart the system. A person of ordinary skill in the art at the time of the invention would have been motivated to tell a user to restart the system because, from line 54 of column 2 of Chang et al., "A third type of hardware failure is one in which there is no possibility of recovery. With this type of failure, the

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system needs to be shut down and restarted.” and because shutting down and restarting a system may require a user to save state or otherwise prepare the system for shutdown and restart.

Further referring to claim 47, although Chang et al. do not specifically disclose the filtering step further comprises determining the errors that require user intervention, having a user respond to errors is notoriously well known in the art. Examiner takes official notice for a person looking at an error log. A person of ordinary skill in the art at the time of the invention would have been motivated to have someone look at an error log because, from line 19 of column 3, “Primarily, entries in the low priority error queues are used for purposes of logging the hardware failure for subsequent analysis.”

15. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6032001 to Miyawaki (Herein referred to as 001.) in view of US 5715496 to Sawada and Miyawaki (Herein referred to as 496.). Referring to claim 52, 001 discloses receiving at a central resource, at least two error messages related to at least two errors occurring on at least one of a plurality of system elements (From line 46 of column 1, “The present invention resolves the above-described problem and relates to a remote diagnosis system which includes a plurality of image forming apparatus which each have a trouble informing device. Also included is a central controller for receiving, from each of the image forming apparatus, data indicative of the trouble.”); determining at least one priority level for each of the errors (From line 1 of column 2, “Further, the trouble classifying device classifies reasons or causes why the trouble has occurred into a plurality of categories. Further, the trouble classifying device regards a trouble as

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urgent information if it causes the image forming apparatus to be inoperative. Further, the trouble-classifying device regards a trouble as non-urgent information if it occurs during an operation mode not presently used by the operator. Further, a plurality of display controllers are respectively disposed in each of the image forming apparatuses for controlling the display corresponding to the trouble classified by the trouble classifying device.”); prioritizing the error messages based on the priority level (From line 27 of column 2, “In addition, the data communication apparatus sends urgent trouble information prior to non-urgent trouble information to the central control apparatus.”), generating, by the central resource, a response in order of the priority level, and transmitting the response to the system element that generated the error message (From line 66 of column 15, “A second type of message may indicate that the trouble has been transmitted to the central control apparatus 400. Such messages are displayed on the display 142, if the duplex mode is selected by the user after the trouble occurred in the duplex related device is transmitted to the central control apparatus 400 and the image forming apparatus receives a response from the central control apparatus 400 indicating that data communication of the trouble is successful (Steps S54, S56 and S58).” Further, from line 65 of column 5, “First, urgent data communications are made from the image forming apparatus to the central control apparatus 400 via the data communication apparatus 200 in order to inform a possibility of an accident or problem which has arisen in the image forming apparatus causing the image forming apparatus to be inoperative.” Further, from line 15 of column 6, “Fourth, non-urgent data communications are made at designated time intervals during a day,

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for example, from the image forming apparatus to the central control apparatus 400 via the data communication apparatus 200.”). Although 001 does not explicitly disclose this response is an error pack based on the error message, containing at least at least one assistance option, sending help in response to a request for help is well known in the art. An example of this is provided also by Miyawaki, also in an image forming remote diagnosis environment, in 496, from the abstract, “A plurality of terminal units are located at respective service stations and also connected to the control unit. The image forming apparatuses each sends, when an event indicative of or predictive of an error occurs therein, information representative of the event to the control unit. The control unit received the information analyzes it and then selectively sends information relating to maintenance or repair to the image forming apparatuses to the terminal units.” A person of ordinary skill in the art at the time of the invention would have been motivated to provide help in response to trouble information because, from line 63 of column 1 of 496, “Moreover, when all kinds of information relating to the copier are sent to the service station, the operator at the service station must determine whether or not the information is representative of a critical error or a simple operating condition. However, such involvement by the operator wastes time and labor as well as communication cost. Because information to be sent and available trouble shooting time are extremely limited at, e.g, the copier, as in the conventional arrangement, it would be impossible for the operator to predict an error or whether or not a serviceman's visit is necessary (remote diagnosis).”, and further from the title of 001, “Remote diagnosis system and method for an image forming apparatus”. Examiner further emphasizes that these two

patents not only are owned by the same assignee but also invented by a same co-inventor in the same environment it would be practiced in.

Allowable Subject Matter

16. Claim 32 is objected to as being rejected under 35 U.S.C. 112, second paragraph, but would be allowable if rewritten to overcome the rejection, specifically incorporating indicated limitations. Examiner notes that any deviation from the suggested amendment, in addition to any issues under 35 U.S.C. 112, second paragraph, may require a rejection under 35 U.S.C. 102 or 103, as applicable.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5594861 to Jonsson et al.

US 5862308 to Andress et al., from the abstract, "setting an intercept flag when a central processor fault occurs if the fault is to be directed to a preprocessor"

US 6205466 to Karp et al., from line 46 of column 15, "The out-box envelope 210 includes an error handler name field that designates a mailbox resource to which errors are to be forwarded if an error occurs when the resource handler 22 performs the resource-specific command contained in the out-box payload 212. This error handler mailbox resource may be the in-box of the error handler 230 or an in-box of the requesting task 14. The requesting task 14 controls which mailbox is to receive errors by writing the appropriate resource name into the error handler name field of the out-box envelope 210. The router 94 delivers a name binding for the error handler name

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field to the resource handler 22 and the resource handler 22 records this name for use in sending error messages."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (703) 308-7298. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel, Jr. can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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